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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER GOEL, DINESH K	
			ART UNIT 4134	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/533,795	Applicant(s) RIETSCHER ET AL.	
	Examiner DINESH GOEL	Art Unit 4134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26-43, 45, 47-50 is/are rejected.
- 7) ☐ Claim(s) 44 and 46 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 5/4/2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/4/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claim 49 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 49 defines a **computer program** embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e.,

“When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized” – Guidelines Annex IV). That is, the scope of the presently claimed a **computer program** can range from paper on which the program is written, to a program simply contemplated and memorized by a person.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 26, 27, 34, 35, 38, 40, 47 and 49 are rejected under 35 U.S.C. 102(e) as being anticipated by Marinescu et al (US Patent Number 7089333).

Referring to claim 26, Marinescu et al teaches a method for reproducing data streams or data packets transmitted via at least one network using at least two reproduction units that are at least indirectly linked to the network (Figures 1,2,3 Column 2 Lines 45-46) the method comprising: synchronizing reproduction using the at least two reproduction units (Column 8 Line 46), either by virtue of one of the reproduction units,

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as a master, prescribing its internal clock as a reference (Column 8 Lines 51-54) and at least one other reproduction unit, as a slave, aligning its internal clock with that of the master via the network or carrying a copy of the master clock and reproducing data streams or data packets based on this aligned clock (Column 8 Lines 54-58), or by virtue of the internal clock of an external unit available on the network being used as the master and all reproduction units, as slaves, aligning their internal clocks with that of the master via the network and reproducing data streams or data packets based on this aligned clock (Column 8 Lines 44-61).

Referring to claim 27, Marinescu et al teach the method as claimed in claim 26, wherein the network is a network in which data packets are transmitted asynchronously or synchronously (Column 1 Lines 53-54).

Referring to claim 34, Marinescu et al teach the method as claimed in claim 26, wherein the data streams or data packets are at least one of digital audio, video data, a combination of digital audio or video data, compressed or uncompressed audio files of MP3, WAV, MPEG, or Windows Media (Abstract, Lines 8-9).

Referring to claim 35, Marinescu et al further teach the method as claimed in claim 34, wherein either same data are reproduced on the reproduction units or different channels of the data, in case audio files in stereo format or multichannel, are reproduced on different reproduction units (Column 4 Lines 57-63)

Referring to claim 38, Marinescu et al disclose the invention which can be applied to any type of communication network architecture (Column 3 Lines 39-41), and as such teaches the method as claimed in claim 26, wherein the network is a wireless network or a radio network.

Referring to claim 40, Marinescu et al teach the method as claimed in claim 26, wherein the data packets or data streams are either fetched from a separate data server, or are fetched on one of the reproduction units, or are already available on the reproduction units, or are made available to the system in digital form via an analog/digital converter and/or a compression/coding unit after supply in analog or digital form (Column 4 Lines 49-55).

Referring to claim 47, Marinescu et al further teach the method as claimed in claim 26, wherein at least one of the reproduction units is for its part used as a master for a subnetwork, with appropriate repetitions being forwarded to a topmost master (Figure 2, Column 7 Lines 7-18).

Referring to claim 49, Marinescu et al teach data processing program for carrying out a method as claimed in claim 26 (Figure 4, 5, & 6, Column 3 Lines 48-59).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 28 - 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marinescu et al (US Patent Number 7089333), and further in view of Mincher et al (US Patent Number 5408506)..

Referring to claim 28, Marinescu et al do not specifically teach that the clock on the slave is aligned before reproduction for a first time and is updated periodically during the reproduction

However, Mincher et al teach periodically maintaining node synchronization in a network (Column 2 Line 23-26).

At the time of invention, it would have been obvious to a person of ordinary skills in the art to have modified Marinescu et al by applying the teachings of Mincher et al. The motivation would be to keep the clocks of master and slave synchronized over time.

Referring to claim 29, Marinescu et al do not specifically teach the method as claimed in claim 28, wherein the periodic update is used on the slave for systematically

matching a speed of operation of the internal clock in the slave to that of the master to compensate for differences in internal propagation-time characteristics of the master and slave. However, it is again taught by Mincher et al (Column 2 Line 23-26).

Referring to claim 30, the method as claimed in claim 29, wherein the systematic matching involves scaling the internal clock in the slave using a constant correction factor is taught by Marinescu et al in that the slave unit comprises clock reconstitution means to make the adjustments (Column 1 Lines 58-61).

6. Claims 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marinescu et al (US Patent Number 7089333), and further in view of Shay et al (US Patent Publication Number 2004/0114607)..

Referring to claim 36, Marinescu et al do not specifically teach that at least some of the data streams or data packets are temporarily buffered in the reproduction units before reproduction, with audio files involving buffering in a region of approximately 1 to 5 seconds, and with the buffering being performed dynamically and so as to be matched to circumstances of the network.

However, Shay et al teaches such a temporary buffering of data packets at the reproduction unit (Paragraph 0052 and 0053), the buffering being performed dynamically based on the network. It would have been obvious to adjust the size to allow buffering in a region of approximately 1 to 5 seconds as per the teachings of Shay et al (Paragraph 0053).

At the time of invention, it would have been obvious to a person of ordinary skills in the art to have modified Marinescu et al by applying the teachings of Shay et al. The motivation would be to provide an input buffer for temporarily storage of certain amount of data packets to take into account the variation in time of their delivery.

Referring to claim 37, Marinescu et al do not specifically teach the individual reproduction units are synchronized in a region of at least one of below 100 ms, or below 10 ms, or below 2 ms, or below 1 ms.

However, Shay et al further teach in their invention (Paragraph 0024) the delay to be below 15 ms.

7. Claims 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marinescu et al (US Patent Number 7089333), and further in view of Stichter (US Patent Number 7068746).

Referring to claim 31, Marinescu et al do not specifically teach that the internal clock is aligned by virtue of the internal clock in the master being requested by the slave, a plurality of times, and by virtue of at least one data packet that may be identical to the packets for requesting the time on the master, being transmitted from the slave to the master and being sent back, and the internal clock in the slave being brought into line with the clock in the master based on a propagation time or an average propagation time for data packets between master and slave.

However, Stichter teaches computation of propagation delay and adjustment of clock accordingly in their invention (Column 3 Lines 41-48).

At the time of invention, it would have been obvious to a person of ordinary skills in the art to have modified Marinescu et al by applying the teachings of Stichter. The motivation would have been to improve the accuracy of the time synchronization process between master and slave units by making adjustment for propagation delay.

Referring to claim 32, Stichter further teaches the method as claimed in claim 31, wherein the propagation time is calculated as a mean taking into account handling times in the reproduction units (Column 3 Line 52-53).

8. Claims 33 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marinescu et al (US Patent Number 7089333), and further in view of Juszkievicz et al (US Patent Number 6353169).

Referring to claim 33, Marinescu et al do not specifically teach a first of the reproduction units that has a task of reproduction is automatically defined as the master.

However, Juszkievicz et al teach a method where a master is defined automatically (Column 7 Line 19-20).

At the time of invention, it would have been obvious to a person of ordinary skills in the art to have modified Marinescu et al by applying the teachings of Juszkievicz et

al. The motivation would have been to automatically designate a master out of a plurality of reproduction units if the current master fails for any reason.

Referring to claim 39, Marinescu et al do not specifically teach that during the reproduction by at least one reproduction unit at least one further reproduction unit is switched in synchronously by virtue of the unit that has been switched in automatically aligning itself with the present master and starting reproduction itself after buffering some of the data.

However, Juszkievicz et al further teach a method where a device (reproduction unit) is plugged in and initialized (Column 17 Lines 50-63).

9. Claims 41, 42, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marinescu et al (US Patent Number 7089333), and further in view of Yamashita et al (US Patent Number 6377979).

Referring to claim 41, although Marinescu et al do not specifically teach that the data packets or data streams are read from a data source into a ring buffer in the master, with each byte read in being provided with a unique address, and wherein, in a process that is independent of the data streams being read into the ring buffer, they teach the master sending the data to the network, by broadcast, or by UDP broadcast, or by multicast, with an addition of a protocol header (Column 5 Lines 16-23).

However, Yamashita et al teach a method to perform data transfer from master to slave using transfer blocks (Column 2 Lines 13-30). The data packets are read from the memory buffer of the master (Figure 1) that would include an address of a first byte sent, a precise master time, and an address of the next byte that is to be sent by the master to a codec of the master.

At the time of invention, it would have been obvious to a person of ordinary skills in the art to have modified Marinescu et al by applying the teachings of Yamashita et al. The motivation would have been to provide a method of broadcasting data packets from a master to slave reproduction units in the network.

Referring to claim 42, Yamashita et al further teach that the address of the next byte that is to be sent by the master to the codec of the master is sent at least partly in independent control blocks, which may be identical to control blocks for checking the clock on the master (Column 2 Lines 13-30).

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Referring to claim 48, Marinescu et al do not specifically teach that at least one of the reproduction units has a memory that is used as a source of audio data, content of the audio data being obtained from the master or from another data source.

However, Yamashita et al further teaches the use of memory buffer which is used to perform data transfer from master to slave units (Column 2, Lines 13-16).

10. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marinescu et al (US Patent Number 7089333).

Referring to claim 45, Marinescu et al do not specifically teach that the data streams or data packets are used to send a bit rate of the master at which the master provides the data streams or data packets on the network, the reproduction unit using the sent bit rate to ascertain the delays that arise in the network.

However, it would have been obvious to have accomplished sending this data since Marinescu et al teach the packet structure which would be used to send data streams from master to the network (Column 5 Line 63—Column 6 Line 19). The rational would have been that the packet structure could also include the said bit rate and other information as required.

11. Claims 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marinescu et al (US Patent Number 7089333), and in view of Yamashita et al (US Patent Number 6377979) and further in view of Katta et al (US Patent Number 7133936).

Referring to claim 50, Marinescu et al do not specifically teach a reproduction unit comprising a network interface, a central computer unit with a memory, and means for at least indirectly outputting data, wherein the memory includes a permanently programmed data processing program, and wherein this program is activated

automatically after a power supply is turned on, with the reproduction unit including means for automatically integrating the unit into the network.

However, Yamashita et al teach a reproduction unit comprising of a central computer unit with a memory and means for at least indirectly outputting data (Column 2 Lines 7-16).

At the time of invention, it would have been obvious to a person of ordinary skills in the art to have modified Marinescu et al by applying the teachings of Yamashita. The motivation would have been to employ a computer based system with memory and other means which would work as a reproduction unit in a network.

Katta et al further teaches wherein this program is activated automatically after a power supply is turned on, with the reproduction unit including means for automatically integrating the unit into the network (Abstract, Lines 9-14).

At the time of invention, it would have been obvious to a person of ordinary skills in the art to have modified Marinescu et al as modified by Yamashita et al with the teachings of Katta. The motivation would have been to provide a method for automatic activation so that the initialization of the network would be achieved without waiting for manual intervention.

12. Claims 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marinescu et al (US Patent Number 7089333) in view of Yamashita et al (US Patent Publication Number 2004/0063459).

Referring to claim 43, Marinescu et al do not specifically teach the method that to protect data integrity when a slave establishes that a data portion has been lost on the network, the lost data portion is sent again by the master upon a request from the slave, with the master performing this repeated sending only after a delay, and with the slaves making the requests in staggered fashion such that identical requests are sent only once over the network.

However, Yamashita et al teach a method of retransmission of data (Paragraph 0045 and 0054) when the errors are detected by the slave in transmission of the data packets.

At the time of invention, it would have been obvious to a person of ordinary skills in the art to apply the teachings of Yamashita et al to the teachings of Marinescu et al. The motivation would have been to provide a method of data retransmission when the errors are detected by the slave or the data is lost.

Allowable Subject Matter

13. Claims 44 and 46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DINESH GOEL whose telephone number is (571)270-5201. The examiner can normally be reached on Monday-Friday 8:00 AM-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lun Yi Lao can be reached on 571-272-7671. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. G./
Examiner, Art Unit 4134

/LUN-YI LAO/
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